AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of the claims in the application.

Listing of Claims:

Please amend the claims as follows without prejudice. No new matter has been added by way of these amendments.

1. (Currently amended) A process for [determining] refining a model of a reservoir containing fluids (W, O), the model having as an input an estimate of ~~the variation in~~ a relative permeability value (krO, krW) of at least one of the fluids in the reservoir [,] as a function of the saturation of at least one of the fluids (W, O), the method comprising:

(a) determining, for one of the fluids of the reservoir, a saturation distribution on the basis of a measurement (SDM) of a physical property in the reservoir;

(b) creating a dynamic model for the flow of fluids in the reservoir;

(c) generating a simulated saturation distribution (SSD) by the dynamic model;

(d) comparing the SSD with the SDM; and

(e) if it is determined from the comparing step d) that the SSD and SDM ~~substantially~~ coincide the dynamic model is considered ~~sufficiently~~ reliable and ~~for the variation in~~ the relative permeability value is output ~~of the at least one fluid~~, otherwise updating the dynamic model with an intermediate relative permeability value (krO_i, ~~and (~~krW_i) and repeating steps (b) and (c).

2. (Currently amended) The process of claim 1 further including, if the saturation distributions compared substantially coincide, setting the ~~variation in the~~ output relative permeability value (krO, krW) ~~of at least one of the fluids in the reservoir, as a function of the saturation of at least one of the fluid (W, O)~~ as being that which the dynamic model provides under the conditions of the SSD.

3. (Canceled)

4. (Previously presented) The process according to claim 1, in which, if the distributions coincide, steps (a) to (c) are repeated at least once, with the SDM being obtained at another given moment.

5. (Original) The process according to claim 1, whereby the basic relative permeability values $(krO)_b$ and $(krW)_b$ to said fluid are obtained from analyses carried out on geological samples taken from the reservoir.

6. (Original) The process according to claim 1, whereby the basic relative permeability values $(krO)_b$ and $(krW)_b$ are obtained from collections of data concerning the reservoir.

7. (Previously presented) The process according to claim 1, whereby the SDM is determined on the basis of a resistivity distribution.

8. (Original) The process of claim 7 wherein the SDM is obtained from the resistivity distribution by applying Archie formula.

9. (Previously presented) The process of claim 7 wherein the resistivity distribution is obtained from an inversion routine applied to electric parameters measured with a network of electrodes.

10. (Original) The process of claim 1 wherein the measurement comprises a basic measurement of the physical property in the reservoir.

11. (Original) The process of claim 9 wherein the measurement further comprises injection of a fluid (w) in the reservoir.

12. (Original) The process of claim 10 wherein the measurement further comprises a current measurement of the physical property in the reservoir.

13. (Original) The process of claim 1 wherein the physical property is a voltage potential.

14. (Currently amended) A process for [determining] refining a model of a reservoir containing fluids (W, O), the model having as an input an estimate of ~~the variation in~~ a relative permeability value (krO, krW) of at least one of the fluids in the reservoir [,] as a function of the saturation of at least one of the fluids (W, O), the method comprising::

(a) determining, for one of the fluids in the reservoir, a resistivity distribution on the basis of a measurement (RDM) of a physical property in the reservoir;

(b) creating a dynamic model for the flow of fluids in the reservoir;

(c) generating a simulated resistivity distribution (SRD) by the dynamic model;

(d) comparing the SRD with the RDM; and

(e) if it is determined from the comparing step d) that the SSD and RDM ~~substantially~~ coincide the dynamic model is considered ~~sufficiently~~ reliable and ~~for the variation in~~ the relative permeability value is output ~~of the at least one fluid~~, otherwise updating the dynamic model with an intermediate relative permeability value (krO_i, ~~and (~~krW_i~~)~~ and repeating steps (b) and (c).

15. (Currently amended) A computer-implemented process for determining, for a reservoir containing fluids (W, O), a dynamic flow model, the process comprising:

(a) determining, for one of the fluids of the reservoir, a saturation distribution on the basis of a measurement (SDM) of a physical property in the reservoir;

(b) creating a dynamic model for the flow of fluids in the reservoir on the basis of the variation in the relative permeability (krO, krW) of at least one of the fluids in the reservoir, as a function of the saturation of at least one of the fluid (W, O)~~,)~~ obtained from a measurement of a core from the reservoir;

(c) generating a simulated saturation distribution (SSD) by the dynamic model;

(d) comparing the SSD with the SDM; and

(e) if it is determined from the comparing step d) that the SSD and SDM ~~substantially~~ coincide the dynamic model is considered ~~sufficiently~~ reliable and the variation in the relative permeability is output or stored as a final value, otherwise updating the dynamic model with an intermediate relative permeability value (krO_i, ~~and (~~krW_i) and repeating steps (b) and (c).